

REMARKS

Introduction

Claims 61-65, 69-85, 89-168 and 170-185 are currently pending, with claims 61-65, 69-85, 89-121, 128-157, 163-168 and 170-181 currently under examination. Claims 122-127, 158-162, and 182-185 are withdrawn for being directed to non-elected claims. All pending claims were rejected by the Office Action of October 30, 2006. In light of the arguments below, reconsideration and withdrawal of the rejections are respectfully requested.

Summary of Examiner Interview

Applicants thank the Examiner for the personal interview of November 16, 2006. During the interview, the new matter rejection of the claims under 35 U.S.C. §132(a) was discussed. Applicants presented support for the claim limitation of “frame” which the Examiner stated he would consider upon filing of a response to the Office Action.

Specification Rejection under 35 U.S.C. § 132(a)

On page 3, the Office Action rejected the amendment filed October 1, 1999 in Reissue No. 36,886 under 35 U.S.C. § 132(a), stating that the amendment filed October 1, 1999 introduced new matter into the disclosure. Applicants respectfully traverse the rejection.

Although the permissibility of rejecting, in the present application, an amendment filed in an issued patent is questionable, Applicants’ response assumes, for the purpose of this response and to advance prosecution, that the rejection is proper. Applicants reserve the right to question the appropriateness of the rejection.

The Office Action on pages 3-4 asserts that the original meaning of the term “frame” in the specification is changed by the Amendment for the feature of “a frame comprising a first

frame part and a second frame part.” The Office Action on page 4 further asserts that the specification does not disclose a single frame to hold a circuit board. Applicants respectfully disagree. Support for a single frame to hold a circuit board can be found, for example, at column 6, lines 44-51 of the original specification for U.S. Patent No. 5,596,663 (hereinafter the ‘663 patent), which states, “it is desirable that the width of the frame of the fiber optic module be larger than the width of the PCB 30” (emphasis added). The frame that is discussed in the specification of the ‘663 patent may comprise a first frame part and a second frame part, which may, for example, refer to the upper frame 10 and lower frame 20 respectively. ‘633 patent, column 6, lines 24-43. Thus, Applicants’ claims presented by the Amendment of October 1, 1999 in Reissue No. 36,886 are fully supported by the original specification and do not introduce new matter. It is further submitted that the specification and all claim amendments are in compliance with 35 U.S.C. § 132(a). Withdrawal of the rejection is respectfully requested.

Claim Rejection under 35 U.S.C. § 112

On pages 4-5, the Office Action rejected claims 61-65, 106-121, 139-157, 163-168, and 170-181 for failure to comply with the written description requirement. Specifically, the Office Action asserts that the amendment filed on October 1, 1999 in RE 36,866 changes the meaning of the frame in the original disclosure and that the application fails to disclose a single frame to hold the circuit board. Applicants respectfully traverse the rejection. Again, Applicants submit the permissibility of rejecting an amendment filed in an issued patent is questionable and reserve the right to question the appropriateness of the rejection. For the sake of advancing prosecution, Applicants will assume for the present time, that the rejection is proper.

As discussed in the preceding section, the specification contains ample support for the recitation of “a frame comprising a first frame part and a second frame part,” for “a frame to hold

“said circuit board,” and for “the frame at least partially encases the circuit board, the laser diode module, and the photo diode module.” Accordingly, claims 61-65, 106-121, 139-157, 163-168, and 170-181 are in compliance with 35 U.S.C. § 112, first paragraph. Withdrawal of the rejection is respectfully requested.

Oath/Declaration

On page 6, the Office Action stated that the oath/declaration is defective for failing to identify at least one error which is relied upon to support the reissue application. Specifically, the Office Action further asserts that the error identified in the declaration does not support the reissue application because the declaration introduces new matter. The Office Action then rejected claims 61-65, 69-85, 89-121, 128-157, 163-168 and 170-181 for being based upon a defective reissue declaration. Applicants respectfully traverse the rejection. As set forth above, the declaration does not introduce new matter because there is support in the specification.

Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: U.S. Patent 5,039,194 to Block and U.S. Patent 5,243,678 to Schaffer

On pages 7-10, the Office Action rejected claims 61, 63, 69-79, and 89-99 as unpatentable over U.S. Patent 5,039,194 to Block (hereinafter Block '194) in view of U.S. Patent 5,243,678 to Schaffer (hereinafter Schaffer). Applicants respectfully traverse the rejection.

Applicants wish to direct the Office's attention to the listing of claim elements in the Office Action. Several supposed claim limitations are not recited in Applicants' claims, though the subject matter of the pending claims may appear similar to the limitations as listed in the Office Action. Applicants have not been able to identify which claim the Office Action recites.

For example, claim 61 does not recite "laser diode electric signal conversion means," "photo diode electric signal conversion means," "first and second frames," and "a surface mounting type connector." Other examples exist in the Office Action. The Office is respectfully directed to the pending claims. In order to be fully responsive to the Office Action, Applicants will address the arguments in the Office Action to the extent that they apply to the rejected claims.

Regarding claim 61, Block '194 fails to render the claim obvious for at least three reasons. First, Block '194 teaches away from the modifications to Block '194 espoused by the Office Action. Claim 61 recites, in part: **"a laser diode driver to convert serial data received from said mother board to a laser diode electric signal for a laser diode; a laser diode module to convert said laser diode electric signal to a laser diode optical signal; a photo diode module to convert a photodiode optical signal to a photo diode electric signal; a semiconductor integrated circuit to convert said photo diode electric signal to photo diode serial data"** (emphasis added).

As admitted by the Office Action on page 7, Block '194 does not teach a fiber optic module having a serial connection to a mother board. Instead, Block '194 teaches a parallel connection to mother board. In particular, Block '194 teaches an optical fiber link card in Figure 1 having connectors 102 and 103 to interface with parallel data buses and, further, in Figure 4 having a serializer means 430 to convert parallel electrical signals to serial optical signals and a deserializer means 428 to convert serial optical signals to parallel electrical signals. Block '194, column 5, lines 54-55; column 7, lines 58-63; and column 8, lines 10-15. To overcome the failings of Block '194, the Office Action relies on a prior art discussion in Block '194 regarding devices for serial optical to serial electrical conversion (and vice versa). Block '194, column 1, lines 25-40. On page 8, the Office Action asserts that: "The link card of Block et al [sic] could be connected to serial transmission lines of the computer if serial-to-serial conversion means are

provided on the card.” The Office Action concludes that it would have been obvious to replace the serial-to-parallel conversion as taught by Block ‘194 with the serial-to-serial conversion as taught in the prior art discussed by Block ‘194.

Block ‘194, however, teaches away from the modifications to Block ‘194 espoused by the Office Action. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following path set out in the reference, or would be led in a direction divergent from the path that was taken by applicant.” *In re Gurley*, 27 F.3d 551, 552, (Fed. Cir. 1994). Teaching away is evidence of non-obviousness. See, e.g., *Winner Int'l Corp. v. Wang*, 202 F.3d 1340 (Fed. Cir. 2000). Block ‘194, in fact, teaches away from using the serial-to-serial conversion as taught in the prior art discussed by Block ‘194.

Block ‘194 references the prior art serial-to-serial conversion to show the unsuitability of using serial connections to a computer. After discussing the prior art serial-to-serial conversion devices on column 1, line 26, to column 2, line 5, Block ‘194 states

The demand for improved electro-optical converters and connectors is rapidly increasing as fiber optic technologies are adapted to provide solutions to performance and packaging problems associated with present day computer interconnect applications. More particularly, I/O pin limitations caused by use of wide parallel data busses, performance limitations on the length of electrical busses, and electromagnetic interference problems, suggest that serial optical communications be used to convey data at high speed between the parallel electrical busses to which computer components are often interconnected. The high data rates required to service wide parallel data busses, the packaging flexibility of connectorized optical transmitter/receiver assemblies, and the necessity for user access to these connectorized ports, has led to the design of small feature cards to interconnect computer elements.

Block ‘194, column 2, lines 6-22 (emphasis added).

Accordingly, it would be desirable if an optical fiber link card could be provided that supports a parallel user interface, such as a parallel data bus; performs parallel to serial conversion (and vice versa) for servicing a high speed serial optical link, where the optical transmitter on the card is capable of driving data in excess of 200 Mbits/sec. without requiring the electrical signal power needed for an LED source; and can support at least double full duplex

connections in less space than is presently required to support single full duplex connections.

Block '194, column 2, lines 45-55 (emphasis added).

It is an object of the invention to provide a high speed optical fiber link card communication module that is capable of transmitting (or receiving) approximately 200 Mbits/sec. data serially over fiber optic media and which provides a parallel electrical interface to the user.

Block '194, column 3, lines 53-57 (emphasis added). Although the Office Action notes on page 8 that “[t]he transmission of data from the mother board to the circuit board can be provided via only two alternatives of a serial or a parallel transmission,” Block '194 teaches away from using any serial connection with a mother board. From the quotes above, Block '194 treats serial-to-parallel conversion as an essential feature needed to distinguish the invention from the prior art, and Block '194 discusses the prior art serial-to-serial conversion devices to show the advantages of using the essential feature of serial-to-parallel conversion.

Thus, one of ordinary skill would not replace the serial-to-parallel conversion as taught by Block '194 with the serial-to-serial conversion as taught in the prior art discussed by Block '194. Instead, if one of ordinary skill in the art would be motivated to modify the teachings of Block '194, one of ordinary skill in the art would look to further parallelize the processing and interfacing with electrical signals. One of ordinary skill would not look to de-parallelize the processing and interfacing as proposed by the Office Action. Therefore, Block '194 teaches away from the modification asserted by the Office Action.

Further, Schaffer fails to remedy the deficiencies of Block '194. Schaffer is directed to a cover for a fiber optic receptacle which maintains alignment of an optical device within a receptacle during soldering or assembly. See Schaffer, column 1, lines 6-11. Schaffer does not disclose the recitations discussed above that are not taught by Block '194. Thus, Block '194 and Schaffer, alone or in combination, fail to teach or fairly suggest claim 61.

Second, the Office Action uses hindsight reasoning. The Office Action takes the position that it would have been obvious to a skilled artisan to modify Block with the knowledge available in the art and arrive at the present claims. Applicants disagree. For the reasons discussed above, a person of skill in the art would not have been motivated to make the modifications espoused by the Office Action. Applicants submit that the Office Action relies on hindsight reasoning to formulate the rejection. This is not the proper standard for establishing a *prima facie* case of obviousness under 35 U.S.C. §103. “Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534 (Fed. Cir. 1998).

Third, the Office Action does not provide references for the numerous elements that are asserted to be obvious, but rather concludes that such modifications to Block '194 would have been obvious based upon the knowledge generally available in the art. Applicants traverse this finding and assert that it would not have been obvious for a person of skill in the art to perform the modifications espoused by the Office Action for the reasons discussed above.

Claims 63, 69, and 89 are independent claims and recite features similar to those discussed above for claim 61 and are, likewise, allowable for the reasons discussed above for claim 61. Hence, claim 61 is allowable over the references.

Claims 70-79 and 90-99 are dependent from claims 69 and 89 and are allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194

On pages 10-12, the Office Action rejected claim 62 as unpatentable over Block '194.

Applicants respectfully traverse the rejection. Claim 62 recites limitations that are similar to those in claim 61, and is allowable over Block '194 for the reasons discussed above for claim 61.

Furthermore, the Office Action relies on hindsight reasoning. The Office Action takes the position that it would have been obvious to a skilled artisan to modify Block with the knowledge available in the art and arrive at the present claims. Applicants disagree. For the reasons discussed forth above a person of skill in the art would not have been motivated to make the modifications espoused by the Office Action. Applicants submit that the Office Action relies on hindsight reasoning to formulate the rejection. This is not the proper standard for establishing a *prima facie* case of obviousness under 35 U.S.C. §103. See *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534 (Fed. Cir. 1998).

In addition, the Office Action does not provide references for the numerous elements that are asserted to be obvious, but rather concludes that such modifications to Block '194 would have been obvious based upon the knowledge generally available in the art. Applicants traverse this finding and assert that it would not have been obvious for a person of skill in the art to perform the modifications espoused by the Office Action for the reasons discussed above. Applicants request that the Examiner cite documents in support of his assertions, in accordance with MPEP 2144.03(C).

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and claim 62 is allowable over Block '194. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194 and JP 63-16496 to Sinbashi et al

On pages 12-15, the Office Action rejected claims 64-65 as unpatentable over Block '194 and Sinbashi et al. (hereinafter Sinbashi). Applicants respectfully traverse the rejection.

Independent claim 64 recites features similar to those discussed above for claims 61, 62 and 63 and is, likewise, allowable over Block '194 for the reasons discussed above for claims 61-63.

Further, Sinbashi, fails to overcome the failings of Block '194. Sinbashi is directed to a circuit module having components mounted on a printing board which is received in a shielding box to provide a high shielding effect. Shinbashi, page 4, lines 1-13 of translation. Sinbashi does not disclose the recitations discussed above that are not taught by Block '194. Thus, Block '194 and Sinbashi, alone or in combination, fail to teach or fairly suggest claim 64.

Moreover, the Office relies upon hindsight in formulating the rejection. Applicants submit that the Office Action is using Applicants specification as a guide from which to selectively choose elements in the prior art to arrive at the present claims. A rejection based on hindsight reasoning fails to establish a *prima facie* case of obviousness under the requirements of 35 U.S.C. § 103. See *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534 (Fed. Cir. 1998).

In addition, the Office Action does not provide references for the elements that are asserted to be obvious, but rather concludes that such modifications would have been obvious based upon the general knowledge available in the art. Applicants traverse this finding and assert that it would not have been obvious for a person of skill in the art to perform the modifications espoused by the Office Action for the reasons discussed above. Applicants request that the Examiner cite documents in support of his assertions, in accordance with MPEP 2144.03(C).

Claim 65 depends from claim 64 and is allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and

the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194 and Sinbashi

On pages 15-17, the Office Action rejected claims 80-81 and 100-101 as unpatentable over Block '194 and Sinbashi. Applicants respectfully traverse the rejection.

Independent claims 80 and 100 recite features similar to those discussed above for claims 61 and are, likewise, allowable over Block '194 for the reasons discussed above for claims 61.

In addition, as discussed above, Sinbashi fails to overcome the failings of Block '194.

Claims 81 and 101 are dependent from claims 80 and 100, respectively, and are allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194, Schaffer, and Sinbashi

On pages 17-20 the Office Action rejected claims 82-85 and 102-105 as unpatentable over Block '194, Schaffer, and Sinbashi. Applicants respectfully traverse the rejection.

Independent claims 82 and 102 recite features similar to those discussed above for claim 61 and are, likewise, allowable over Block '194 for the reasons discussed above for claim 61.

Further, as discussed above, both Schaffer and Sinbashi fail to overcome the failings of Block '194.

Claims 83-85 and 103-105 depend from claims 82 and 10, respectively, and are allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and

the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194

On pages 20-22, the Office Action rejected claims 128-134 as unpatentable over Block '194. Applicants respectfully traverse the rejection.

Claim 128 recites features similar to those discussed above for claim 61 and is, likewise, allowable over Block '194 for the reasons discussed above for claim 61.

Further, claim 128 is allowable over Block '194 for the reason that Block '194 fails to disclose or fairly suggest a surface mounting type connector. Claim 128 recites, in part, “a surface mount type connector for connecting the fiber optic module to a computer.” In Figure 1 of Block '194, the connectors 102 and 103 are not surface mounting type connectors. Instead, the connectors 102 and 103 are mounted on top of the card and include pins that protrude through the card to the bottom side for mating with the user's system card. Block '194, column 11, lines 44-49. Thus, Block '194 fails to disclose or fairly suggest a surface mounting type connector. Hence, Block '194 fails to render obvious claim 59 for at least two reasons.

Claims 129-134 depend from claim 128 and are allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Rejection under 35 U.S.C. § 103: Block '194 and Sinbashi

On pages 22-23, the Office Action rejected claims 135-138 as unpatentable over Block '194 and Sinbashi. Applicants respectfully traverse the rejection.

Claims 135-138 depend from claim 128. Claim 128 is allowable over Block '194 for the reasons discussed above.

In addition, as discussed above, Sinbashi fails to overcome the deficiencies of Block '194, and claim 128 is allowable over the references.

Claims 135-138 depend from claim 128 and are allowable as being dependent from an allowable claim.

Accordingly, the Office Action fails to establish a *prima facie* case of obviousness, and the claims are allowable over the references. Withdrawal of the rejection is respectfully requested.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. Accordingly, Applicants request that the Examiner issue a Notice of Allowance indicating the allowability of claims 61-65, 69-85, 89-121, 128-157, 163-168 and 170-181 and that the application be passed to issue.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Respectfully submitted,

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